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10/525,578

02/23/2005

Ronald Joseph Antonius Van Den Oetelaar

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS

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BRIARCLIFF MANOR, NY 10510

EXAMINER

KLIMOWICZ, WILLIAM JOSEPH

ART UNIT

PAPER NUMBER

2627

MAIL DATE

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05/04/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|---|--|--|
| Office Action Summary | Application No. 10/525,578 | Applicant(s) VAN DEN OETELAAR ET AL. | |
| | Examiner William J. Klimowicz | Art Unit 2627 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 February 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

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DETAILED ACTION

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

The Applicant is advised to include section headings within the specification

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Specification

The Applicant should amend the specification to provide for proper idiomatic English and/or conformance with standard patent specification language. By example only, the following should be amended or changed:

- (i) With regard to page 1 (line 4), “a first substrate with present on a side thereof.”
- (ii) With regard to page 1 (line 5), “a first recording stack named L_0 .” (e.g., the word “named” should be deleted)
- (iii) With regard to page 1 (line 9), “a second substrate with present on a side thereof.”
- (iv) With regard to page 1 (line 10), “a second recording stack named L_1 .” (e.g., the word “named” should be deleted).

Appropriate correction is required.

Drawings

The drawings are objected to because the reference designator **38b** in Figure 3, should be changed to the designator **38** in order to remain consistent with the specification (e.g., see page 6, line 29-30).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet”

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pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim 1 is objected to because of the following informalities:

The claim(s) should be reworded in idiomatic English and/or conformance with standard patent claim language. For example, the following should be amended or changed:

- (i) With regard to claim 1 (line 5), “a first substrate with present on a side thereof.”
- (ii) With regard to claim 1 (line 6), “a first recording stack named L_0 .” (e.g., the word “named” should be deleted)
- (iii) With regard to claim 1 (line 11), “a second substrate with present on a side thereof.”
- (iv) With regard to claim 1 (line 12), “a second recording stack named L_1 .” (e.g., the word “named” should be deleted).

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishiuchi et al. (US 5,764,619).

As per claim 1, Nishiuchi et al. (US 5,764,619) discloses a multi-stack optical data storage medium (e.g., see, by mere example only, the embodiment associated with FIG. 20, col. 47, l. 35-col. 48, l. 67) for recording using a focused radiation beam (7) having a wavelength λ and entering through an entrance face (bottom side of FIG. 20) of the medium during recording, comprising: a first substrate (43) with present on a side thereof: a first recording stack (44) named L_0 , comprising a recordable type L_0 recording layer (206), and formed in a first L_0 guide groove (see FIG. 20), the L_0 recording layer (206) having a thickness d_{L0G} in the groove (e.g., see col. 47, ll. 49-50). and a thickness d_{L0L} adjacent the groove (e.g., see col. 47, ll. 49-50), and a first reflective layer (204) present between the L_0 recording layer (206) and the first substrate (43), a second substrate (41) with present on a side thereof: a second recording stack (42) named L_1 comprising a recordable type L_1 recording layer (202), the L_1 recording layer (202) having a thickness d_{L1G} (e.g., see col. 47, l. 64) in the groove and a thickness d_{L1L} (e.g., see col. 47, l. 64) adjacent the groove, said second recording stack (42) being present at a position closer to the entrance face (bottom surface of medium as seen in FIG. 20) than the L_0 recording stack (44) and formed in a second L_1 guide groove (see FIG. 20), a transparent spacer layer (45) sandwiched between the recording stacks (42, 44), said transparent spacer layer (45) having a thickness substantially larger than the depth of focus of the focused radiation beam (in order to focus on stacks (42) and (44) separately, of course), characterized in that the depth of the first L_0 guide groove (e.g., see col. 47, ll. 46-47) is smaller than 0.15λ (e.g., see col. 48, l. 29) and that d_{L0L} is substantially equal to or larger than d_{L1G} (cf., e.g., col. 47, l. 64 and l. 50).

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As per claim 2, wherein d_{L0G} is substantially equal to or larger than $2d_{L1L}$ (cf., e.g., col. 47, l. 64 and l. 50).

As per claim 3, wherein the recordable type L_0 and L_1 recording layers comprise an organic dye (e.g., see col. 14, l. 36 - col. 15, l. 12 as per a general discussion about which recording layers are encompassed by the disclosure as a whole).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishiuchi et al. (US 5,764,619) in view of Muramatsu et al. (EP 1 067 535 A2).

See the description of Nishiuchi et al. (US 5,764,619), *supra*.

Additionally, as per claim 5, Nishiuchi et al. (US 5,764,619) further discloses wherein a dielectric layer (e.g., 207) is present at a side of the L_0 recording layer (206) opposite from the side where the first reflective layer (204) is present.

Additionally, as per claim 6, Nishiuchi et al. (US 5,764,619) further discloses wherein the dielectric layer (207) has a thickness in the range of 5 nm-120 nm (e.g., see col. 47, l. 65).

As per claim 4, Nishiuchi et al. (US 5,764,619) does not expressly disclose wherein d_{L1G} is larger than d_{L1L} .

As per claim 7, Nishiuchi et al. (US 5,764,619) does not expressly disclose wherein a second reflective layer comprising a metal is present at a side of the L_0 recording layer opposite from the side where a first reflective layer is present.

Muramatsu et al. (EP 1 067 535 A2), however, discloses an analogous multi-stack optical data storage medium for recording having two recording stacks, wherein an L_1 recording layer (2) has a thickness d_{L1G} (e.g., see paragraph [0040]) in the groove and a thickness d_{L1L} (e.g., see paragraph [0041]) adjacent the groove, wherein d_{L1G} is larger than d_{L1L} (e.g., see paragraph [0040]-[0041])).

Additionally, as per claim 7, Muramatsu et al. (EP 1 067 535 A2) discloses wherein a second reflective layer (3) comprising a metal (Au (gold), *as per claim 9*) is present at a side of the L_0 recording layer opposite from the side where a first reflective layer (6) is present (e.g., see FIG. 2 and paragraph [0018]).

Given the express teachings and motivations, as espoused by Muramatsu et al. (EP 1 067 535 A2), it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide land and groove thickness recording layers, as set forth in claim 4 and disc structure as per claim 7, to the disc of Nishiuchi et al. (US 5,764,619).

The rationale is as follows: one of ordinary skill in the art would have been motivated to provide land and groove thickness recording layers, as set forth in claim 4 and disc structure as per claim 7, to the disc of Nishiuchi et al. (US 5,764,619) in order to provide information reproduction that can be performed appropriately at higher recording densities associated with DVD disc formats (e.g., see, *inter alia*, paragraphs [0004-0011]).

As per claim 8, although Muramatsu et al. (EP 1 067 535 A2) as applied to Nishiuchi et al. (US 5,764,619), remains silent to wherein the second reflective layer has a thickness in the range of 5 nm -15 nm, such second reflective layer thickness used with the type of optical disc disclosed by Muramatsu et al. (EP 1 067 535 A2) and/or Nishiuchi et al. (US 5,764,619) are well known.

That is, given the teachings of Muramatsu et al. (EP 1 067 535 A2) and Nishiuchi et al. (US 5,764,619), as a whole, and given the general knowledge of one having ordinary skill in the art, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the second reflective layer thickness of Muramatsu et al. (EP 1 067 535 A2) as applied to Nishiuchi et al. (US 5,764,619), as being in a range of 5 nm -15 nm.

The rationale is as follows: one of ordinary skill in the art would have been motivated to provide the second reflective layer thickness of Muramatsu et al. (EP 1 067 535 A2) as applied to Nishiuchi et al. (US 5,764,619), as being in a range of 5 nm -15 nm since such range thickness of translucent metallic layers are conducive to light transmission and reflection as workable ranges - wherein light must pass to access the "upper" recording layer, have to be sufficiently thin to be translucent, allowing light to pass through, while also not being too thin, in order to prevent pinholes from being formed in the metallic layer, -thus material diffusion, etc. Such a concept of thin ranged second reflection layers is well known to the average artisan when faced with such a particular choice of ranges for layer thickness.

The claimed thickness of the second reflection layer, absent any unexpected results, given such a teaching espoused by Muramatsu et al. (EP 1 067 535 A2) as applied to Nishiuchi et al.

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(US 5,764,619), would indeed cause one having ordinary skill in the art to find a workable range of particular values for such a desired thin film translucent metallic layer, thus verifying the expected light transmissive/reflective characteristics based on translucent metallic layer thickness.

The Examiner finds this situation analogous to the optimization of a range or other variable within the claims that flows from the “normal desire of scientists or artisans to improve upon what is already generally known.” *In re Peterson*, 315 F.3d 1325, 1330 (Fed. Cir. 2003) (determining where in a disclosed set of percentage ranges the optimum combination of percentages lies is *prima facie* obvious). In *In re Aller*, 220 F.2d 454, 456 (C.C.P.A. 1955), it was held that the discovery of an optimum value of a variable in a known process is usually obvious. See also *In re Boesch*, 617 F.2d 272, 276 (C.C.P.A. 1980) (“[D]iscovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art.”); *In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997) (“[I]t is not inventive to discover the optimum or workable ranges by routine experimentation.” (quoting *Aller*, 220 F.2d at 456)); *In re Kulling*, 897 F.2d 1147, 1149 (Fed. Cir. 1990) (finding no clear error in Board of Patent Appeals and Interferences’ conclusion that the amount of eluent to be used in a washing sequence was a matter of routine optimization known in the pertinent prior art and therefore obvious). Based on the teachings of Muramatsu et al. (EP 1 067 535 A2) as applied to Nishiuchi et al. (US 5,764,619), and the skill of one having ordinary skill in the art, the Examiner maintains that the experimentation needed, then, to arrive at the particular claimed ranges in the instant application, is “nothing more than routine” application of a well-known problem-solving strategy, *Merck & Co., Inc. v. Biocraft Labs., Inc.*, 874 F.2d 804, 809 (Fed. Cir.

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1989), and the Examiner concludes this is, “the work of a skilled [artisan], not of an inventor.” *DyStar*, 464 F.3d at 1371; see also *In re Luck*, 476 F.2d 650, 652-53 (C.C.P.A. 1973) (use of routine testing to identify optimum amounts of silane to be employed in a lamp coating, without establishing a critical upper limit or demonstrating any unexpected result, lies within the ambit of the ordinary skill in the art); *In re Esterhoy*, 440 F.2d 1386, 1389 (C.C.P.A. 1971) (“One skilled in the art would thus manifestly operate the Switzer et al. process under conditions most desirable for maximum and efficient concentration of the acid. The conditions recited in the claims appear to us to be only optimum and easily ascertained by routine experimentation.”); *In re Swentzel*, 219 F.2d 216, 219 (C.C.P.A. 1955) (“It may well be that the size represents the largest particles suitable for appellant’s purpose, but the determination of that desired size under the present circumstances involves nothing more than routine experimentation and exercise of the judgment of one skilled in the art.”); *In re Swain*, 156 F.2d 246, 247-48 (C.C.P.A. 1946) (“In the absence of a proper showing of an unexpected and superior result over the disclosure of the prior art, no invention is involved in a result obtained by experimentation.”); “the prior art would have suggested to one of ordinary skill in the art that this process should be carried out and would have a reasonable likelihood of success.” *Merck*, 874 F.2d at 809 (quoting *In re Dow Chem. Co.*, 837 F.2d 469, 473 (Fed. Cir. 1988)). For these reasons, the Examiner is of the opinion, based on a preponderance of the evidence, in conjunction with analogous case law, a skilled artisan would have had a reasonable expectation of success with the modification of thin layer reflectivity thickness to arrive at the thickness range as prescribed by claim 8. Moreover, it is worth noting that Muramatsu et al. (EP 1 067 535 A2) as applied to Nishiuchi et al. (US 5,764,619), certainly does not teach away from the claimed ranges. Thus, it is the opinion of the

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Examiner that a requisite *prima facie* case of obviousness has been established with regard to the claims.

Allowable Subject Matter

Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

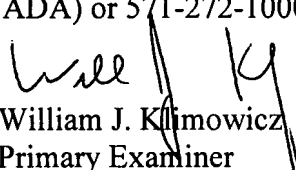
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William J. Klimowicz whose telephone number is (571) 272-7577. The examiner can normally be reached on Monday-Thursday (6:30AM-5:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Thi Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


William J. Klimowicz
Primary Examiner
Art Unit 2627

WJK